

Attorney Docket No.: PENN-0742
Inventors: Lu, Zhe
Serial No.: 09/743,054
Filing Date: February 15, 2001
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REMARKS

Claims 1-14 are pending in the instant application. Claim 1 has been allowed. Claims 2-4 and 9-14 have been withdrawn from consideration. Claims 5-8 have been rejected. Claims 5-7 have been amended. Claims 2-4 and 9-14 have been canceled. No new matter has been added by this amendment. Reconsideration is respectfully requested in light of the following remarks.

I. Election/Restriction Requirement Under 35 U.S.C. §121

The election of Group I claims has been acknowledged and claims 5-6 have been rejoined with the elected Group as claim 1 has been found to be allowable. However, the Examiner has not rejoined claims 9-12 as they do not depend from or otherwise include all the limitations of claim 1. Therefore, the Examiner has taken claims 1 and 5-8 under consideration and claims 2-4 and 9-14 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected subject matter. Accordingly, Applicant has canceled claims 2-4 and 9-14 without prejudice, reserving the right to file continuing applications for the canceled subject matter.

II. Rejection of Claims Under 35 U.S.C. §112

Claims 5-8 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner has suggested that claims 5 and 6 are indefinite since it is unclear what "activity of inward-rectifier potassium channels" in the

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assay is necessary to practice the claimed methods. Applicant respectfully disagrees.

It would be clear to one of skill in the art upon reading the claims in view of the specification that the activity being measured is that of the channel of the inward-rectifier potassium channel. In particular, the specification teaches at page 6, lines 3-7, and Example 2 (page 18) that inhibitors such as tertiapin can be analyzed for inhibitory activity by measuring the current through the channel. Thus, in an earnest effort to facilitate the prosecution of this application, Applicant has amended claims 5 and 6 to recite that the activity being measured is the activity of the channel of the inward-rectifier potassium channel. Withdrawal of this rejection is therefore respectfully requested.

Claim 7 (and claim 8, dependent thereon) has been rejected under 35 U.S.C. §112, first and second paragraphs, because the phrase "a compound having a tertiapin-like α helix" is indefinite because it is a relative term which renders the claim indefinite since the specification fails to provide a standard for ascertaining the requisite degree and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Further, the Examiner suggests that the definition of the term "a compound having a tertiapin-like α helix" is completely open-ended and the specification fails to provide a concrete definition as to what parameters must be present in the compound such that the compound possesses "a tertiapin-like α helix" within the scope of the presently claimed invention. Applicant respectfully disagrees.

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In an effort to facilitate the prosecution of the instant invention, Applicant has amended claim 7 to clarify the instant invention and indicate that the essential elements of the compound of the claimed pharmaceutical composition are amino acid residues 11 to 21 or 12 to 21 of SEQ ID NO:1 or SEQ ID NO:2. Support for this amendment can be found at page 13, lines 18-25, which teach that the nine non-cysteine residues within the N-terminal half of the tertiapin have little effect on the interaction between tertiapin and an inward-rectifier potassium channel, whereas the eight non-cysteine residues within the C-terminal half generally have a much more dramatic effect on the interaction. Further support for these essential amino acids can be found at page 16, lines 2-6 and 15-20, which teach that the α helix amino acids at positions 11-21 or 12-12 of tertiapin block the vestibule of the potassium pore to inhibit the channel activity of inward-rectifier potassium channels. Therefore, based on the defined structure of a compound comprising amino acid residues 11 to 21 or 12 to 21 of SEQ ID NO:1 or SEQ ID NO:2 and the guidance provided by the instant application regarding the function of these amino acids, it would be readily apparent to one of ordinary skill in the art the scope of the claimed invention. It is therefore respectfully requested the rejections of claim 7 under 35 U.S.C. §112, first and second paragraphs, be withdrawn.

III. Rejection of Claims Under 35 U.S.C. §102

Claim 7 has been rejected under 35 U.S.C. §102(b) as being anticipated by Vick (U.S. Patent No. 3,878,297) in view of Hider et al. ((1981) *Biochim. et Biophys. Acta* 667:197-208) alone, or

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if necessary, further in view of "Biosequence Searching for the USPO" (STN International, May 1996, pages 30-31). Claim 7 further stands rejected under 35 U.S.C. §102(b) as being anticipated by Habermann ((1972) *Science* 177:314-322) in view of Hider et al. alone, or if necessary, further in view of "Biosequence Searching for the USPO". The Examiner suggests that Vick discloses and claims a pharmaceutical composition comprising apamin and a pharmaceutically acceptable vehicle. Likewise, it is suggested that Habermann teaches a pharmaceutical composition comprising apamin, MCD peptide and a pharmaceutically acceptable vehicle. The Examiner suggests that apamin and MCD peptide are inherently "compounds having a tertiapin-like alpha helix" since apamin and MCD peptide are taught by Hider et al. to possess similar amino acid sequence and alpha helical structure to positions P11 or P12 to K21 of tertiapin. Applicant respectfully disagrees.

Claim 7, as amended, recites a pharmaceutical composition comprising a compound comprising amino acid residues 11 to 21 or 12 to 21 of SEQ ID NO:1 or SEQ ID NO:2 and a pharmaceutically acceptable vehicle. Vick or Habermann in view of Hider et al. do not teach such a pharmaceutical composition; therefore, withdrawal of this rejection is respectfully requested.

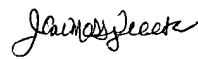
IV. Conclusion

The Applicant believes that the foregoing comprises a full and complete response to the Office Action of record.

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Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,



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